REMARKS

In the office action, the Examiner requested various documents under 37 C.F.R. §1.105 in order to determine whether they constitute prior art against specific claims. Applicant has obtained the requested information and submitted the same herewith. As discussed in detail below, these materials do not constitute prior art. Reconsideration and allowance of the pending claims is respectfully requested.

Office Action Requests

1. The publication date or date of sale of supportive documentary evidence, such as manuals, articles and/or program code by applicant, or assignee, that may qualify as printed publication prior art or on sale bar (35 U.S.C. 102(a) or (b)) specific to the CambridgeSoft series for the ChemDraw, ChemFinder, Chem3D, inclusive of support programs and add-ons that allow for integration between these specific packages, that were available prior to February 11, 1999.

To the best of Applicant's knowledge, the following are beta release dates for the relevant documents:

1999-01-20: ChemDraw 5.0 beta final candidate
1998-09-18: ChemOffice Webserver beta final candidate
1998-07-09: ChemDraw 4.5.1 in beta final candidate
1997-03: Catalyst article

The beta release dates are internal and earlier than the public release dates. In addition, Applicant is submitting documentation to support the version release dates of these products. This information can also be publicly accessed at the following web addresses:

ChemFinder: http://www.cambridgesoft.com/services/history.cfm?FID=4
ChemOffice: http://www.cambridgesoft.com/services/history.cfm?FID=1
ChemDraw: http://www.cambridgesoft.com/services/history.cfm?FID=2

Chem3D: http://www.cambridgesoft.com/services/history.cfm?FID=3

2. The trade name of any goods or services the claimed subject matter is embodied in.

To the best of Applicant's knowledge, some of the subject matter contained in claims 1, 5, and 9 is embodied in software having the trade name AnaSym. Some of the subject matter of claims 2, 6, 7, and 10 is embodied in software having the trade name DynaSym. Some of the subject matter of claims 3, 7, and 11 is embodied in software having the trade name OpenBridge. Some of the subject matter of claims 4, 8, and 12 is embodied in software having the trade name FreeRect.

3. The citation for, the dates initially published and copies of any advertising and promotional literature prepared for any goods or services the claimed subject matter has been embodied in.

To the best of Applicant's knowledge, there have been no advertisements or promotional literature published for any goods or services that embody some of the subject matter of the claimed invention. The only marketing literature that appears to be remotely relevant is an article in a company magazine called The CS Catalyst (included herewith). The CS Catalyst was a company magazine, and the article appeared in the March 1997 issue.

4. The citation for and copies of any journal articles describing any goods or services the claimed subject matter has been embodied in.

To the best of Applicant's knowledge, there have been no journal articles describing goods or services in which the claimed subject matter is embodied. Applicant notes, however, that there is a summary of some of the problems associated with the creation of two-dimensional organic structures and brief mention of CambridgeSoft products. See "Structure Diagram Generation," Rev. Comp. Chem., pp.

390-391. The claimed subject matter has not been otherwise mentioned in any journal articles or promotional literature.

5. The claimed invention appears to be an improvement over at least some of Applicant or Assignee's commercial products, identification of what is being improved must be provided in the response so as to delineate the claimed invention from these products.

Applicant's (or Assignee's) earlier commercial products included a less refined implementation of SDG, but lacked the features of the claimed invention. This implementation was available through ChemDraw's "Clean" menu command. This feature allowed users to regularize bond lengths and angles, and lay out ring systems. However, this was not done effectively and success was not always achieved. In fact, ChemDraw lacked the ability to inter-position molecules. There were other packages that attempted to provide this ability, but the methodology differed from the current invention because there was no consideration for symmetry when inter-positioning the molecules. As described in the Rev. Comp. Chem. paper, there were a lot of problems associated with the creation of two-dimensional organic structures. Also, ChemDraw failed to consult symmetry when creating two-dimensional organic structures. Finally, ChemDraw was unable to satisfactorily fabricate bridged rings.

Independent claims 1, 5, and 9 recite, in part, "representing the instance of symmetry as a list of groups of equivalent atoms and bonds." This feature is not used, taught, or suggested by any of Applicant's earlier products. With respect to independent claims 2, 6, and 10, earlier versions of Applicant's products did not determine the force term based on the difference between an optimal angle and a current angle, as recited in those claims. Independent claims 3, 7, and 11 specifically recite "a bridge addition to the first chemical structure diagram." The construction of ring bridges using, for example, an open polygon was not available in any of

Applicant's products. Applicant's early products also lacked the ability to track, unused display area, within which the first portion of the available layout area is defined, as set forth in independent claims 4, 8, and 12. The features recited in the claimed invention provide certain abilities such as, for example, inter-positioning of molecules and consulting symmetry when creating two-dimensional organic structures. These features were simply not available in the earlier products. Furthermore, since the features were clearly lacking in older products and not disclosed by the cited art, claims 1-12 are believed to be allowable.

6. Copies or originals of manuals covering versions of ChemDraw 1-4-.5, ChemFinder 1-4.0, and Chem 3D 1.0-4.5.

Applicant has obtained copies of the relevant manuals and produced copies together with a Supplemental Information Disclosure Statement (IDS), filed herewith.

7. Copies of the following article mentioned in the specification in an apparent attempt at incorporating its subjection matter therein, yet not provided in the filed IDS, paper 4. This was originally requested in the Office Action dated January 15, 2003, paper #7.

> H. E. Helson, Structure Diagram Generation", in Reviews in Computational Chemistry, K. B. Lipkowitz et al., Wiley-VCH, New York, 1999, vol. 13, at 313-398. Incorporated in specification and used for support on pages 4 and 14.

Applicant has filed a Supplemental IDS which includes a copy of the requested reference.

8. Any written descriptions or analyses, prepared by any of the inventors or assignees, of goods or services in competition with the goods or services the claimed subject matter has been embodied in.

To the best of Applicant's knowledge, there have been no such written descriptions or analyses of goods or services in competition with the claimed subject matter.

9. An explanation of technical material held within the publications, specific to the publications listed on the PTO 1449 and those referenced within the specification so as to delineate the inventor's subject matter and that subject matter contributed by others listed as co-authors, but not listed as co-inventors. Further, this explanation must go to how the subject matter supports the instant specification as filed and how the instant invention teaches different and patentably distinguishable subject matter that Applicant regards as their invention and claimed.

Applicant believes that he is the sole inventor of the subject matter of the pending claims. The Office Action appears to suggest that co-authorship of the cited references may have resulted in co-inventorship. This is not the case. Regarding the Rev. Comp. Chem. paper, Applicant is the sole author of the article, as clearly indicated on p. 313. The names of the other two individuals (mentioned in the Office Action) appear at the beginning of Volume 13. These individuals are identified as editors, not co-authors. Regarding the first article (A1) listed on form PTO-1449, the subject matter described therein differs from, and does not support, the features recited in the pending claims. Applicant is the sole author of the second article (A2) listed on form PTO-1449. The subject matter of this reference differs from, and does not support, the features recited in the pending claims. While Applicant co-authored the third article (A3), the subject matter of this reference also differs from, and does not support, the features recited in the pending claims. Accordingly, there is no need to delineate the inventor's subject matter from subject matter contributed by those listed as co-authors, but not listed as co-inventors.

10. An explanation and analysis of how the subject matter claimed is patentably distinct from that which is taught in the CambridgeSoft suite of software inclusive of ChemDraw, Chem3D and ChemFinder, prior to February 11, 1999.

As previously discussed, ChemDraw lacked the ability effectively perform functions such as regularizing bond lengths and angles, and laying out ring systems. Furthermore, these functions were not always performed successfully. ChemDraw and the corresponding software packages lacked the ability to inter-position molecules. The Rev. Comp. Chem. paper also discusses a number of problems associated with the creation of two-dimensional organic structures. ChemDraw did not consult symmetry at all when creating two-dimensional organic structures. Finally, ChemDraw was unable to satisfactorily fabricate bridged rings.

In contrast to the teachings of these references, claims 1, 5, and 9 recite, in part, "representing the instance of symmetry as a list of groups of equivalent atoms and bonds." This feature is not used, taught, or suggested by any of Applicant's earlier products. With respect to independent claims 2, 6, and 10, earlier versions of Applicant's products did not determine the force term based on the difference between an optimal angle and a current angle, as recited in those claims. Independent claims 3, 7, and 11 specifically recite "a bridge addition to the first chemical structure diagram." The construction of ring bridges using, for example, an open polygon was not available in any of Applicant's earlier products. Applicant's products also lacked the ability to track unused display area, within which the first portion of the available layout area is defined, as set forth in independent claims 4, 8, and 12. As can be appreciated, some of the features recited in the claimed invention provide certain abilities such as, for example, inter-positioning of molecules and consulting symmetry when creating two-dimensional organic structures.

It is therefore respectfully submitted that claims 1-12 are allowable over the art of record.

Claims 13-27 depend from claim 1 and are therefore believed allowable for at least the reasons set forth above with respect to claim 1. In addition, these claims each introduce novel features that independently render them patentable over the art of record.

For the reasons stated above, it is respectfully submitted that all of the pending claims (1-27) are now in condition for allowance. Therefore, a Notice of Allowance is believed in order, and courteously solicited.

The Examiner is respectfully requested to contact the undersigned, if it is believed that such contact would further the examination of the present application.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees that may be required for this Response, or credit any overpayment, to deposit account number 08-0219.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of which is required to make this response timely, and is hereby authorized to charge any fee for such, to deposit account number 08-0219.

Respectfully submitted,

Leonid D. Thenor
Reg. No. 39,397

Hale and Dorr LLP
Willard Office Building
1455 Pennsylvania Ave., N.W.
Washington, DC 20004
202-942-8400
April 9, 2004